

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1-22. (Canceled)

23. (Original) A method of forming a shallow trench isolation structure on a silicon substrate having a plurality of trenches etched therein to define isolation regions and a plurality of masked regions on an upper surface of said substrate positioned between said isolation regions, said method comprising:

    exposing the substrate to an oxidizing ambient to create a thermal oxide layer within the trench;

    forming a layer of silicon oxide over the thermal oxide layer by alternating

    (i) introducing to the chamber a first gas consisting of one of a silicon-containing precursor gas and an oxidant,

    (ii) purging the first gas from the chamber,

    (iii) introducing to the chamber a second gas consisting of the other of the silicon-containing precursor gas and the oxidant,

    (iv) purging the second gas from the chamber, and

    (v) repeating steps (i) - (iv) until a desired thickness of the silicon oxide layer is achieved; and

    filling the trenches with chemical vapor deposited silicon oxide material.

24. (Original) The method of claim 23 wherein the silicon-containing precursor gas comprises tetraethylorthosilane (TEOS) and the oxidant comprises ozone.

25. (Original) The method of claim 23 wherein the silicon-containing precursor gas comprises  $\text{SiCl}_4$  and the oxidant comprises steam ( $\text{H}_2\text{O}$ ).

26. (Original) The method of claim 23 wherein the silicon-containing precursor gas comprises  $\text{Si}(\text{NCO})_4$  and the oxidant comprises steam ( $\text{H}_2\text{O}$ ).

27. (Original) The method of claim 23 wherein the silicon-containing precursor gas comprises  $\text{CH}_3\text{OSi}(\text{NCO})_4$  and the oxidant comprises hydrogen peroxide ( $\text{H}_2\text{O}_2$ ).